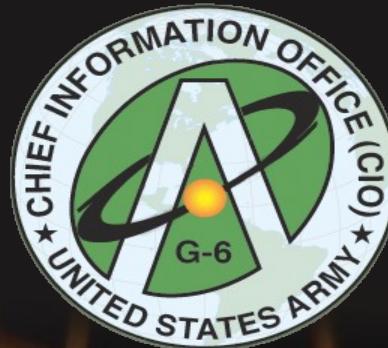


Putting Power to the Edge

LTG Steven W. Bouteille

CIO/G-6

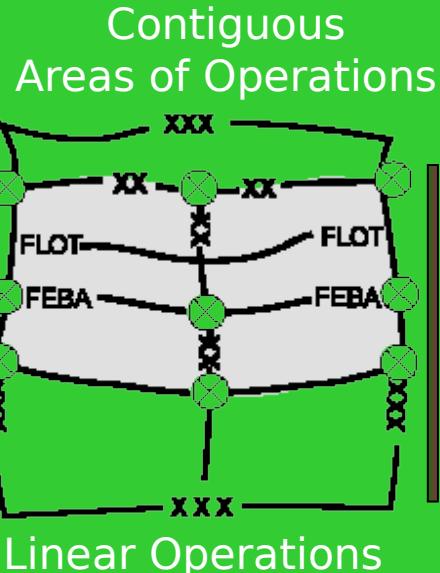
10 October 2003





Evolving IT War Fight: A Changed Paradigm

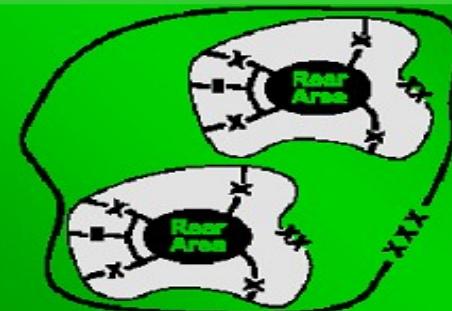
Yesterday.....



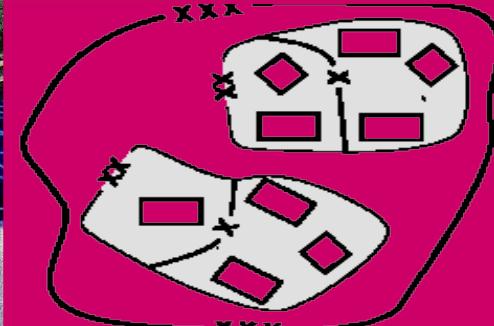
....Tomorrow



Linear Operations

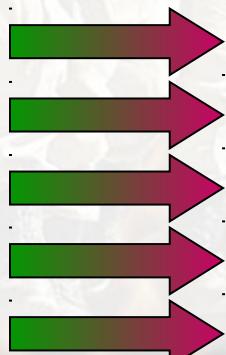


Non-Contiguous Areas of Operations



Non-Linear Operations

- Area-Centric
- Low Data Demand
- Large Footprint
- Voice Reliant
- LOS Backbone



- Simultaneous Asymmetric Operations
- High Information Demand
- Embedded, Multi-Functional
- Collaboration Reliant
- Ubiquitous Transport



Driving the C4 Evolution

Emerging Strategic Environment

- Enhanced Nationalism & Rejection of the West
- Ungoverned groups – terrorism
- Readily available information technology
- Technological acceleration
- Unstable power balances



Just Cause

Provide Comfort

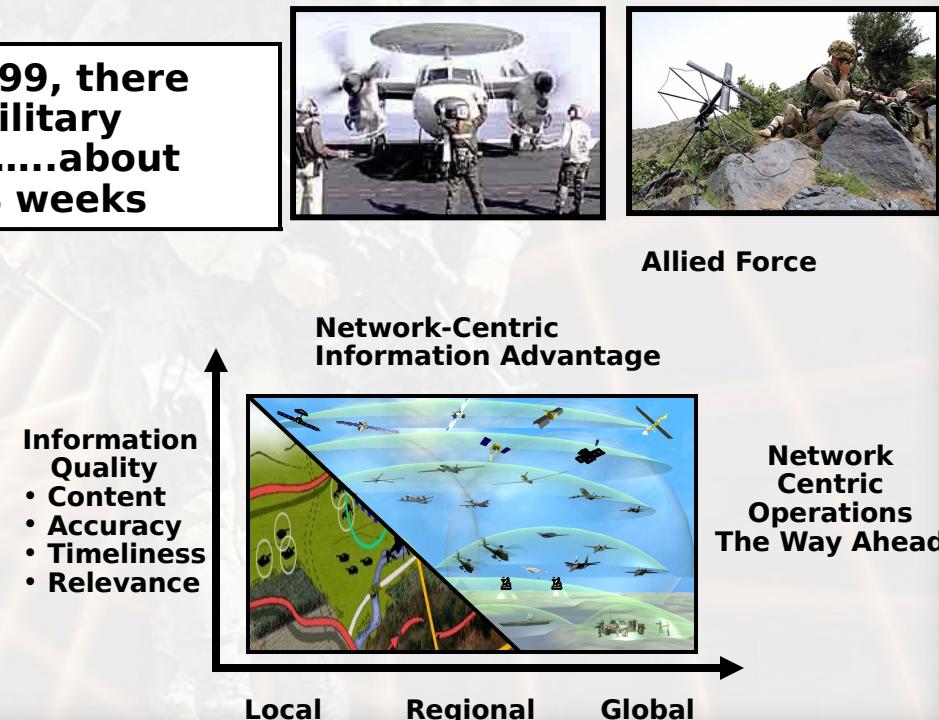
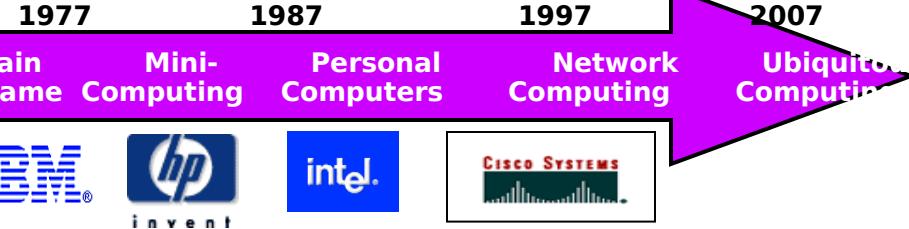
From 1989-1999, there were 38 US military deploymentsabout once every 14 weeks



Allied Force

“The two truly transforming things, conceivably, might be in information technology and information operation and networking and connecting things in ways that they function totally differently than they had previously.” - Secretary Rumsfeld, Aug 2001

Information Age (R)evolution





Exploiting Lessons Learned

Joint COP

Air Force
COP since
Circa 1948
-
Thousands
of Aircraft

Circa June 1997
CSA Decision
Digitize III Corp

• Land Warrior - 200X

Prairie Warrior
May 95

Desert Hammer
May 94

Warrior Focus
Fall 95
Focused
Dispatch
Aug 95

TMD
Spring 95

Prairie Warrior
May 96

Task Force
XXI Mar 97

DAWE
Nov 97

Prairie Warrior
May 98

JCF AWE
Sep 00

LDOCS

Satellite
Based
FBCB2

Grenadier
Brat and
A2C2

Demonstrated Light
Warfighter Issues and
Digitization

• Mobile Strike Force
• Army After Next
Strike Force

BDE COP
2003

OEF/OIF

MCO 2

DCX 2

DCX 1

ELB

Army/USMC
Integration at BDE/BN

- Validating the process
- Scale and Improve product for IBCT

- EMPRS
- Dismounted Soldier
- Light TOCS

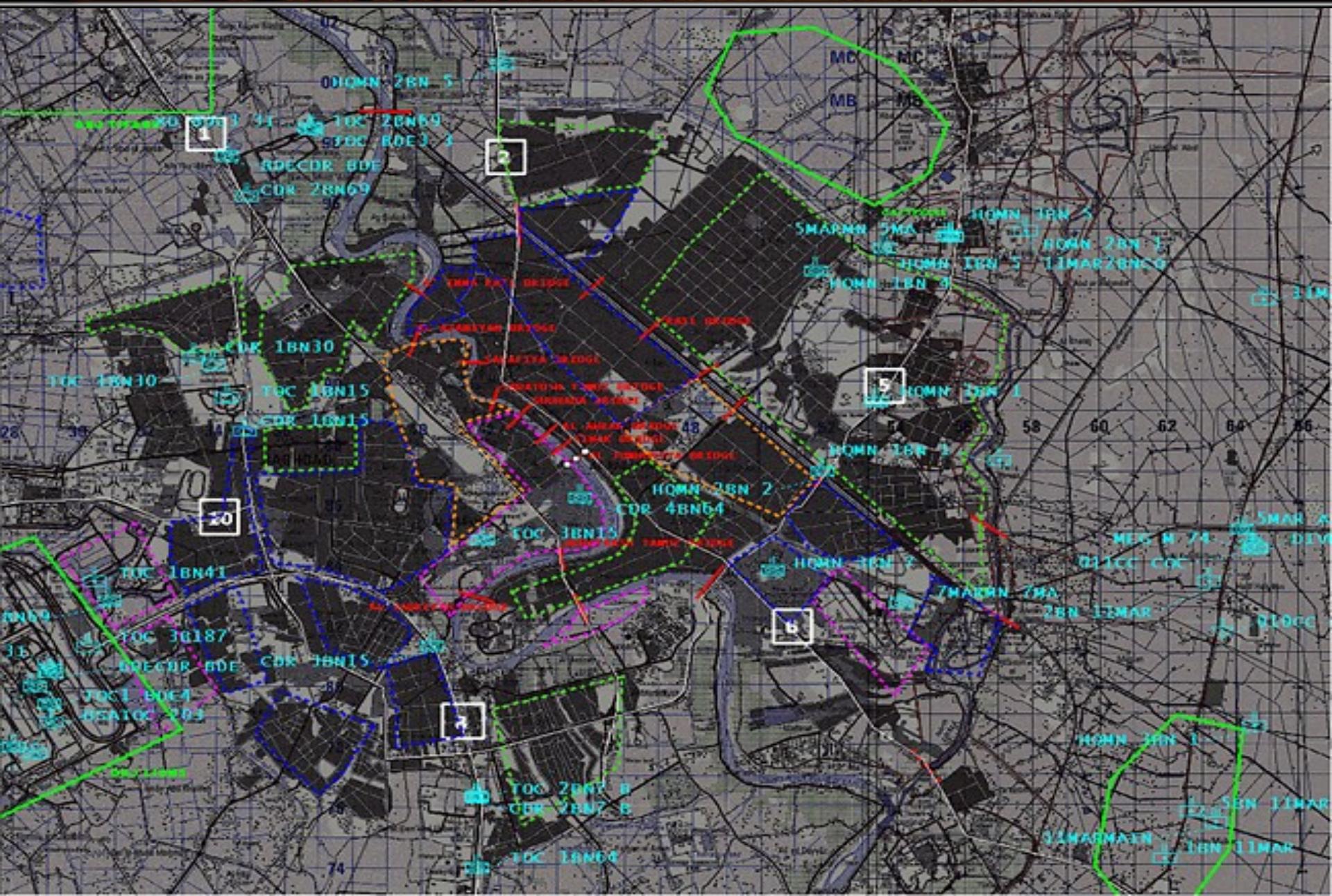
Navy
COP since
Circa
1990's
-
Hundreds
of Ships
and
Aircraft

Army
COP since
2003
- Tens of
Thousands
of
Vehicles,
Aircraft,
Units, etc.

Army "bottom up" approach took too long



Blue Force Tracking





Power of Network Centric Warfare

Blue Force Tracking: *Part of the Network Centric Warfare Future*

101st Airborne -

101st MI Officer: *"BFT is saving our butts over here, comms-wise!"*

USMC -

USMC Division Forward Senior Watch Officer: *"Had it not been for BFT, we probably would have fired upon a friendly 3ID unit"*

USMC -

CDR, TSG, USMC: *"We would die without this system"*

82nd Airborne -

1st BDE XO: *"FBCB2 is a winner! When all other means of communications failed, FBCB2 carried the day"*

3rd Infantry Division -

Night Shift Operations Officer, DMAIN: *"At the DMAIN on the move, FBCB2 was the only thing we had for SA"*



CIO/G-6 Imperatives

★ Reshape Signal Units

- Reshape people & equipment for relevancy
 - Joint Data Packages (eg. JCSE, SCAMPI)
- Include satellite plan
- Plan to “fix” tactical units for 5-7 years like OIF

★ Manage the Army's GIG contribution as an Enterprise: GuardNet (3300 Sites), ARNet (940 Sites), and Army Networks

- Realign and optimize for the Joint Warfighter

★ Network the Force, including Logistics

★ Affect the acquisition of C4, empower AAIC for acquisition to ensure systems are Joint from birth

★ Embrace small unit operations

★ Lead Army campaign for bandwidth

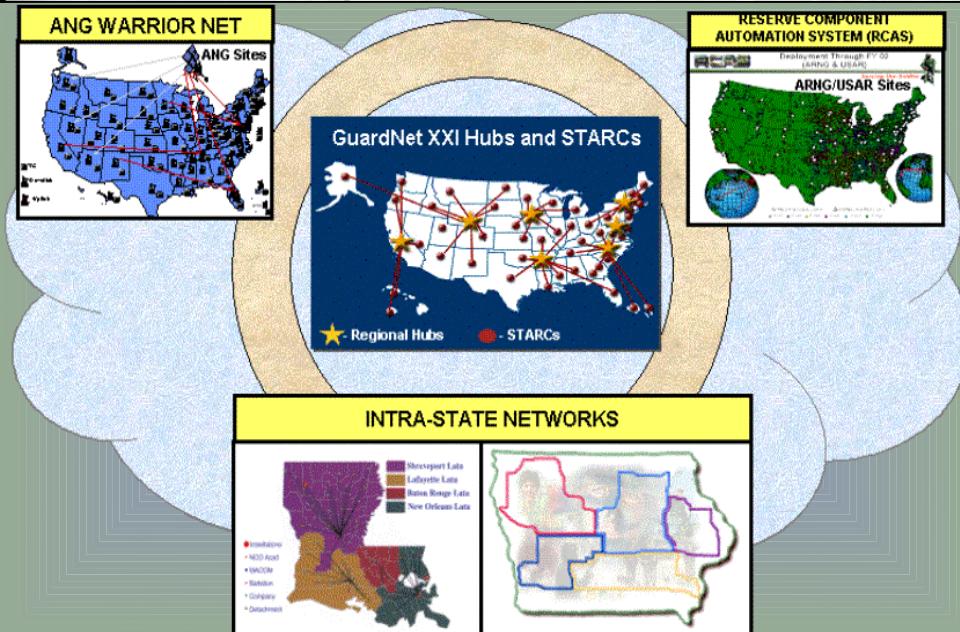
We will sustain/increase momentum with AKM and Current Operations



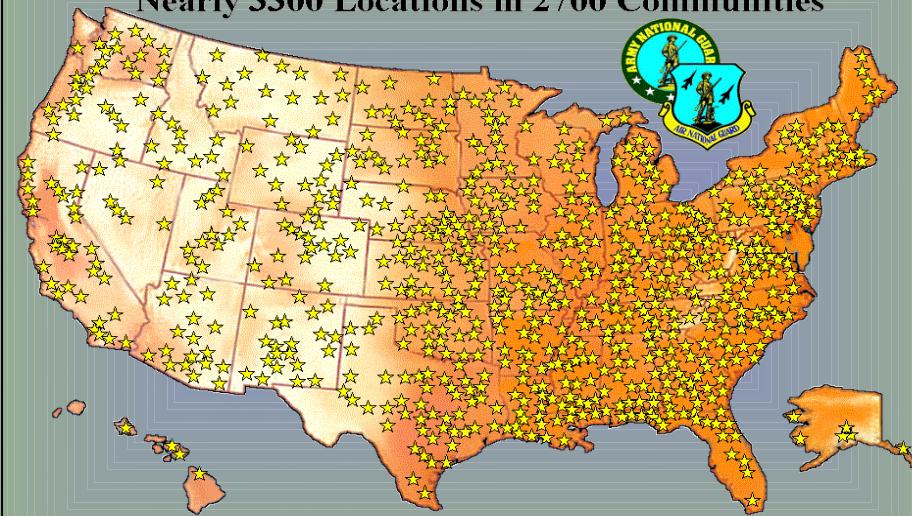
Army Network Consolidation

- **Network consolidation - Single Enterprise Network**
 - MOAs with USAR and NGB - one Army Enterprise Network
 - Acquisition and management under one element - NETCOM (Network Enterprise Technology Command)
- **Merged Network Operations Security Centers (NOSCs) - NGB, USAR, and NETCOM - one multi-component network management construct**
 - Positions Army to support HLS

June 03 - Army CIO/G-6 is CIO for USAR



Army & Air National Guard Installations Nationwide
Nearly 3300 Locations in 2700 Communities





Army's Networks

Today

- Old Copper
- Analog, Aging Switches
- Limited Growth Ability

Installation Information Infrastructure Modernization Program (I3MP)



- Refining HSOC role with TRADOC
- I3MP locations being realigned
- Locations looked at WRT GIG-BE
- Today, only selected Buildings on selected installations

We must fix the Last Mile to the Installation

2003-2009

- Fiber or New Copper
- Latest Digital Switches
- Latest network equipment for high-speed data
- Upgrade Gateways to DISN/GIG-BE

**Funding:
\$2.8B
(Army)**

Locations:
All Army installations including ARNG and Army Reserve



Network Enterprise Technology Command (NETCOM)

Supporting the Warfighter

14,000
Soldiers/Civilians
And Contractors

Currently Deployed In 21 Countries
43 countries since 2002:
Soldiers - 2422
Civilians - 26
Contractors - 577

Daily operations
- 300 Facilities
In 14 Countries
Worldwide

USFK/CFC
1st Sig



Direct
Report To
CIO/G-6

PACOM
516th Sig



NETCOM

MDW
1108th Sig
Bde



CND/CNO
Operations
Ft. Belvoir

SOUTHCOM
93D Sig Bde



CENTCOM
11th Sig Bde



- Single authority to operate, manage, and protect Army's Infostructure
- ***Supporting Combatant Commanders World Wide***



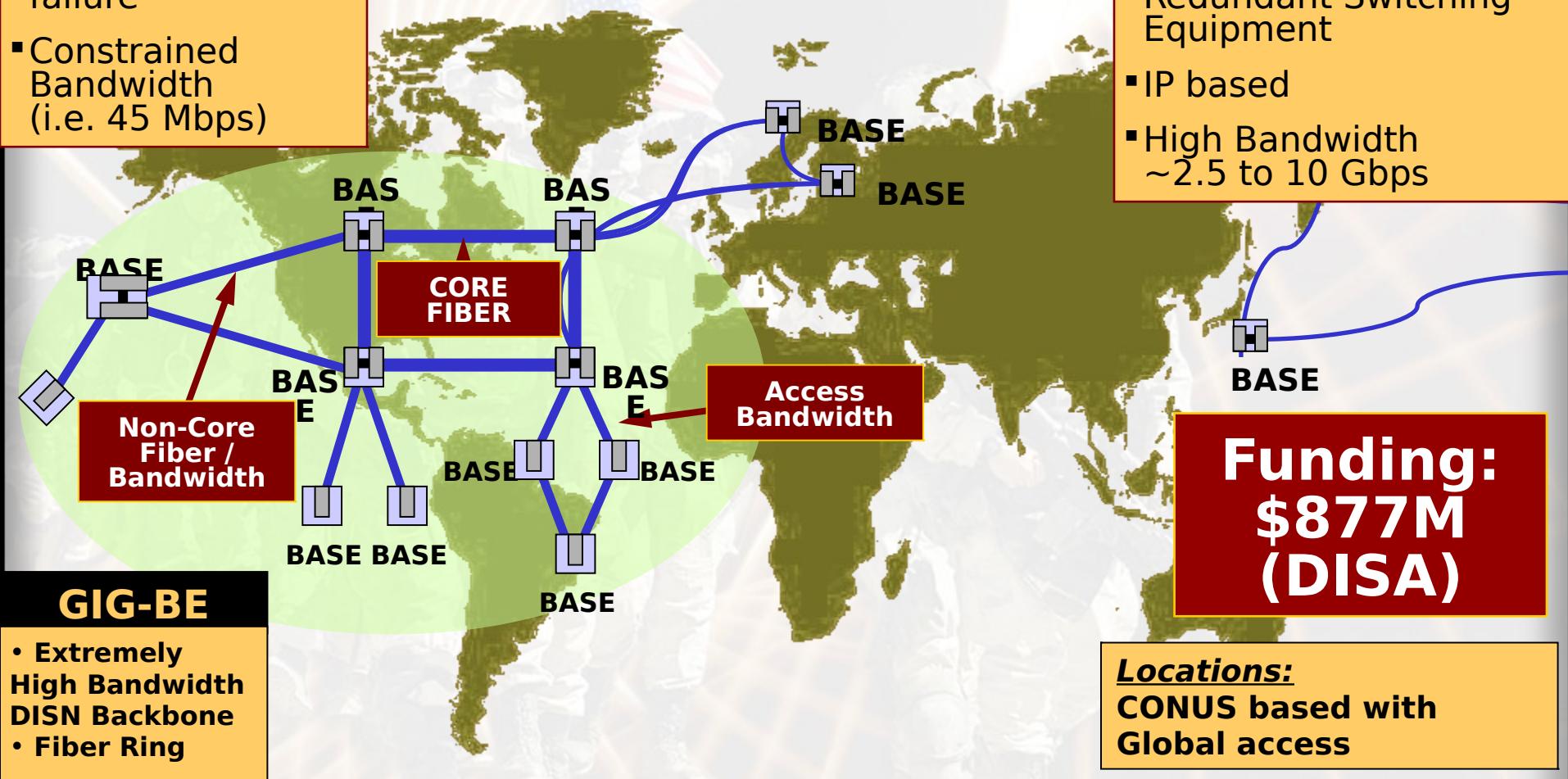


Global Information Grid (GIG) Bandwidth Expansion Program

Today

- Multiple Carriers
- Single Points of failure
- Constrained Bandwidth (i.e. 45 Mbps)

Ultra-High Bandwidth to Key Access Points



2003-2004

- Physically Diverse Access
- Redundant Switching Equipment
- IP based
- High Bandwidth
~2.5 to 10 Gbps

Funding: \$877M (DISA)

GIG-BE

- **Extremely High Bandwidth DISN Backbone**
- **Fiber Ring**

Locations: CONUS based with Global access



Teleport

Today

STEP

- Military
- Constrained Bandwidth (45 Mbps)

Global Access To the Warfighter

2003-2007

Teleport

- Military and Commercial Access
- Increased Bandwidth (~102 Mbps)
- Crossbanding Mil to Comm (via teleport)



Teleport

- Next Generation Tactical Entry Point for DISN Services
- Access to DISN Services including NIPRnet, SIPRnet, DSN

Funding :
\$557M

Locations:

Ft Meade	Ft Belvoir
Ft Bragg	
Croughton	
Bahrain	
AFB	McDill
Sigonella	
	Ft Detrick

Enablers for Future Combat System and Obj



Global Broadcast Service (GBS)

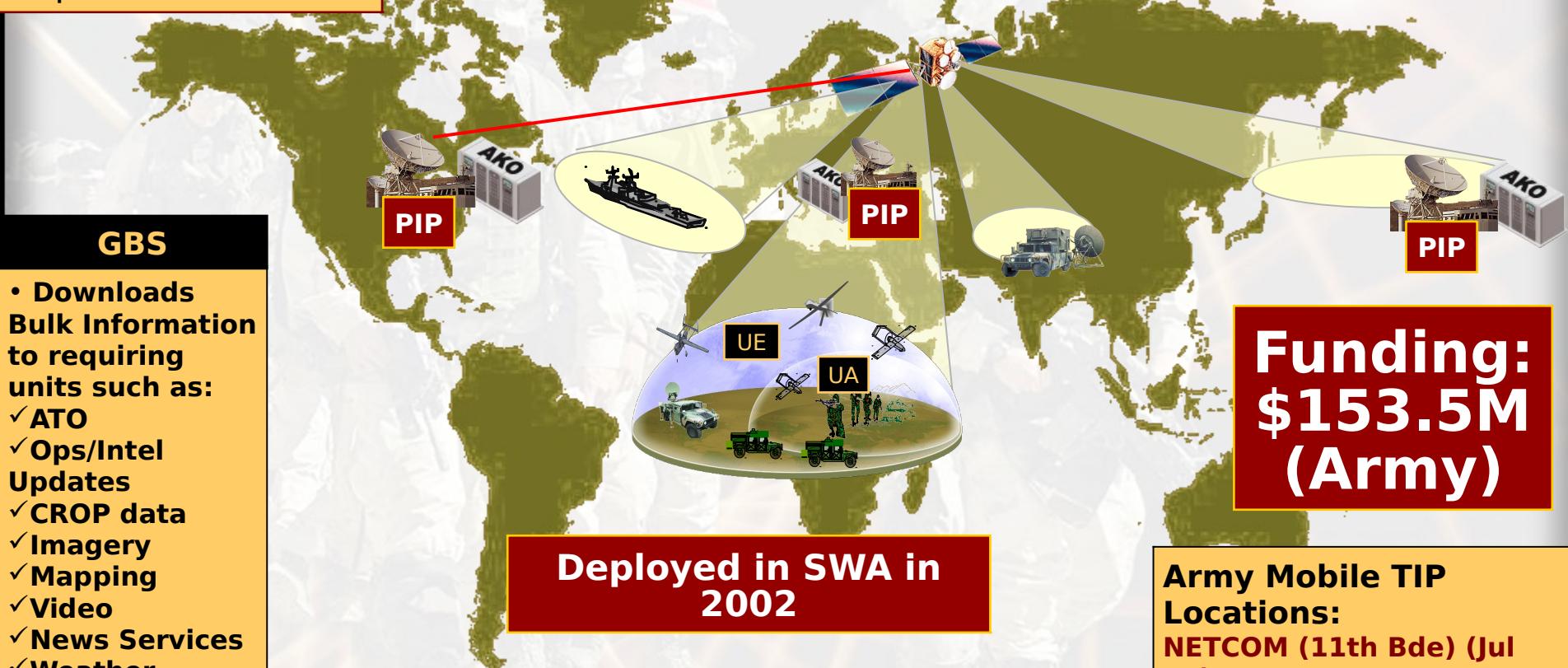
Today

- Worldwide Satellite Capability
- All (3) Primary Injection Point (PIP) Operational

Continuous High-Speed Data & Video to the Warfighter - GLOBALLY!

2003-2011

- 456 Light Terminals
- 27x Rec Systems per Division

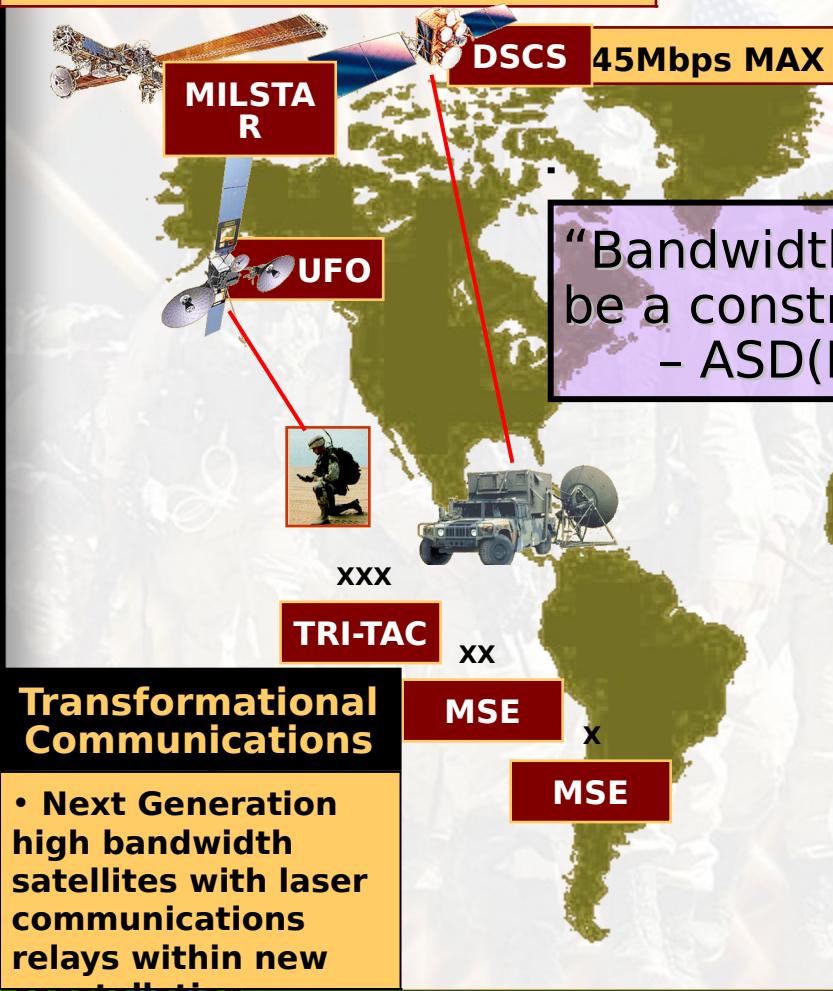




Transformational Communications

Today

- Constrained Bandwidth
- Stove-piped SATCOM



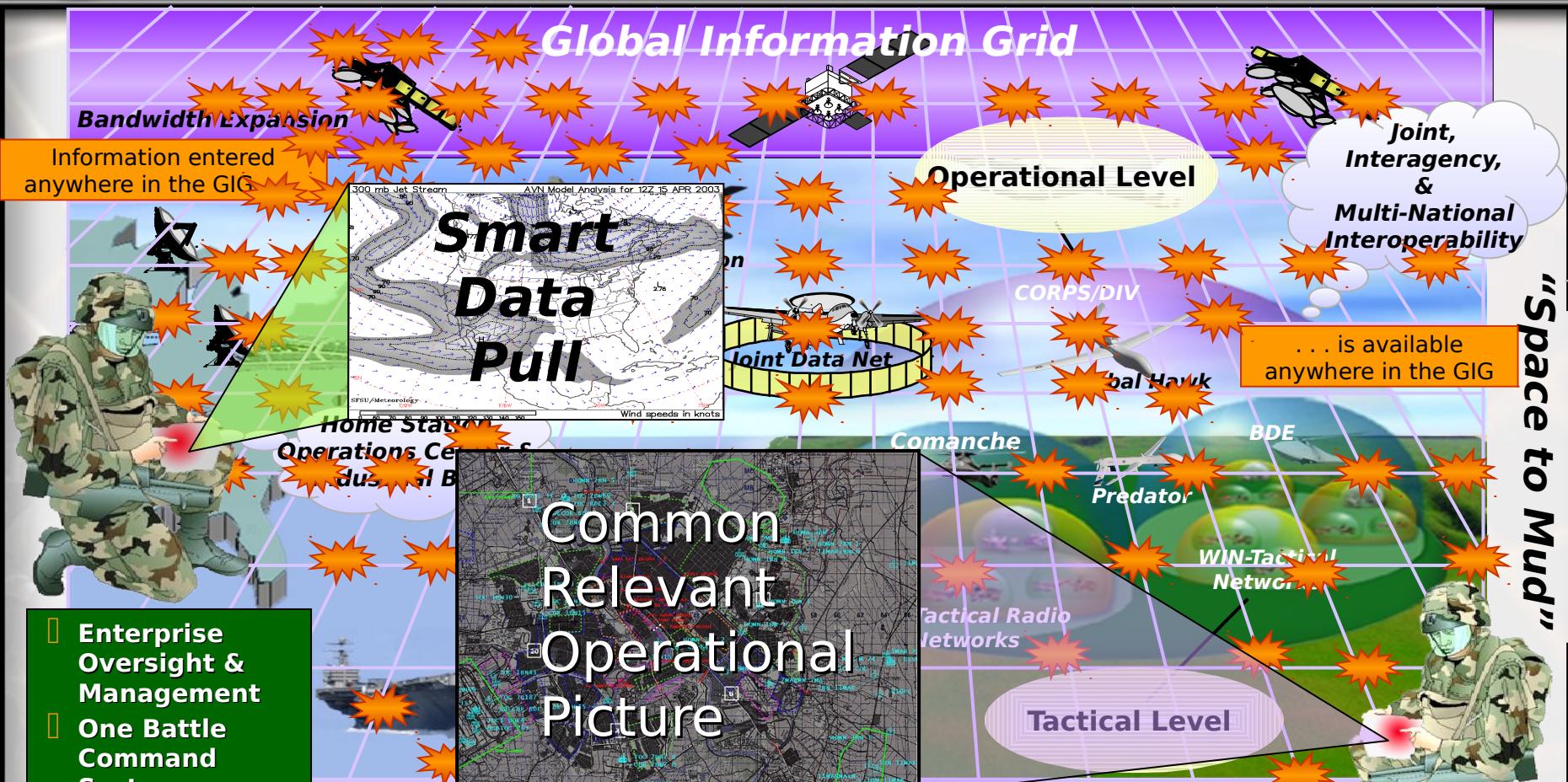
2003-20XX

- “Big Pipes”
- Networked satellites
- On the Move Comms





Future Force C4 Operational Concept



The Objective Force C4 architecture provides the framework for vertical & horizontal integration, specifies interfaces and relationships internal and external to the Army... Joint, Interagency, and Multi-National



This is Not Just About Technology

Global Terrorist Incidents

1968-1997 = 8509 (20 Years)

1998-2003 = 7053 (6 Years)

OCT 23, 1983

Marine Barracks

241 Marines killed



- Al Qaida
- Islamic Jihad
- Hamas
- Hisbollah
- Palestine
- Liberation Front
- Etc., Etc.
- Trained and Educated - Phd's, Engineers, technicians
- Highly Dedicated

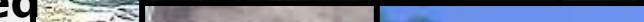
Threat Level = **HIGH**



Aug 7 1998
U.S. Embassies
In East Africa
54 killed
5000 Injured



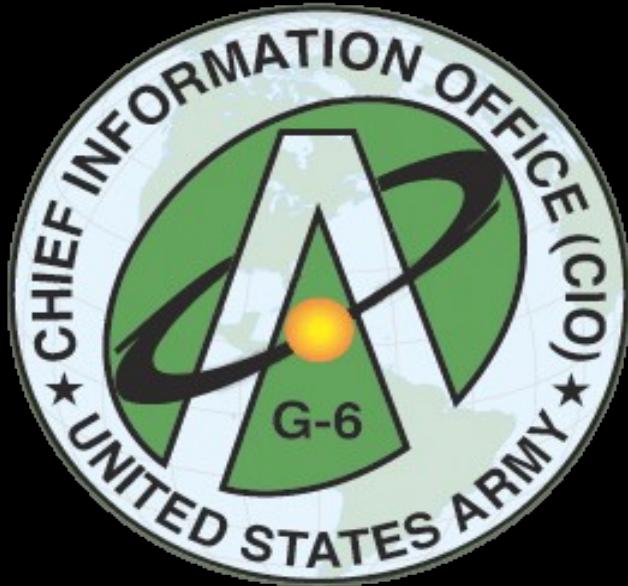
Oct 12, 2000
USS Cole
17 Sailors killed
39 Injured



Sept 11, 2001
WTC/Pentagon
3000+ killed
thousands more



**335 Terrorist Attacks
Worldwide Since 9-11**



Questions?

LTG Steven W. Boutelle
CIO/G-6